P1-P085

BONE MINERAL DENSITY IS NORMAL IN PREPUBERTAL PATIENTS WITH TURNER SYNDROME WHEN CORRECTED BY HEIGHT/AGE

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Introduction

TURNER SYNDROME (TS) CLINICAL CHARACTERISTICS => SHORT STATURE (🡻 BONES) + HIPOGONADISM (🡻 ESTROGEN)

INCREASED RISK OF FRACTURES (Nadeem, 2008; Bakalov, 2008) => ETIOLOGY AND MECHANISMS ?

DEXA BONE DENSITOMETRY (BD) => BONE CONTENT EVALUATION / RISK FRACTURES (2 DIMENSION # VOLUME)

SHORT STATURE CHILDREN => ADJUST TO BONE AGE OR HEIGHT AGE (Zerbini, 2006; Brandão, 2009)

OBJECTIVE: TO DESCRIBE LUMBER SPINE BD IN PREPUBERTAL TS=> KARYOTYPE AND BMI

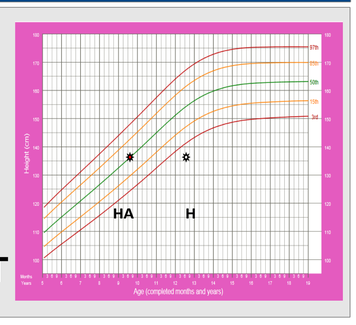
Methods

RETROSPECTIVE DATA: HEALTHY PREBUBERTAL TS (WITHOUT GH, STEROIDS ANABOLICS OR ESTROGENS)

KARYOTYPE: 45,X AND OTHER – BMI Z-SCORE MEDIAN: zBMI > MEDIAN AND zBMI ≤ MEDIAN

BD => Hologic Discovery Wi (S/N83901)

BD => AGE BD (A-BD) AND HEIGTH-AGE BD (HA-BD) - HEIGHT-AGE = 50TH PERCENTILE BD DETERMINED HEIGHT



Results

34 HEALTHY P*REP*UBERTAL TS AGED BETWEEN 8 AND 13y – EXCLUDED: 13 WITHOUT BD + 8 GH

13 CASES: AGE AT BD => 10 AND 13 – MEAN FOLLOW UP => 8 YEARS

CHRONOLOGYCAL AGE => 12.5 ± 1.0 HEIGTH AGE 9.0 ± 1.2

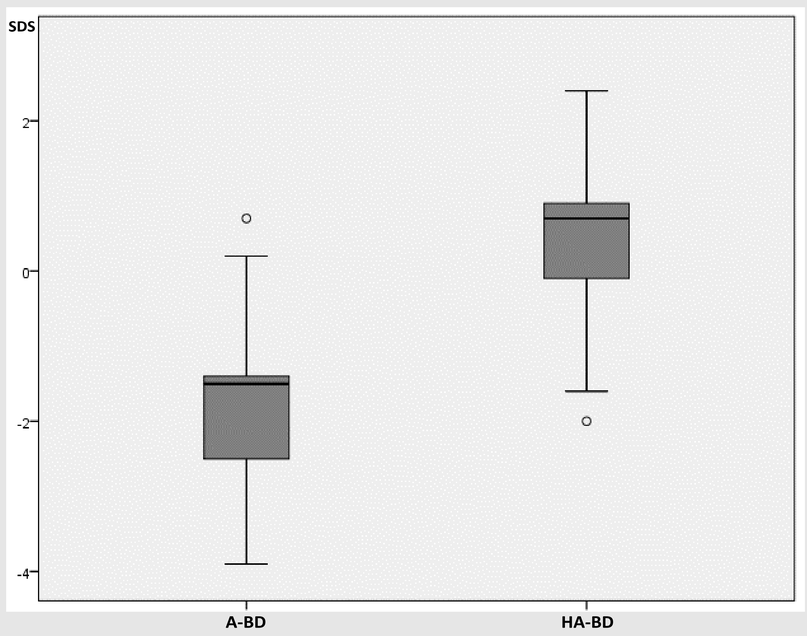
KARYOTYPE (n CELS ≥ 20): 45,X (n=6) / OTHER (n=7) – BMI Z-SCORE MEDIAN: zBMI > 0.61 (n-6) / zBMI ≤ 0.61 (n=7)

Age and height-age at bone density and bone density according to chronological age and height-age

	AGE (y)		BONE DENSITY (z)	
	Age	Height-Age	Age	Height-Age
Mean	12.5	9.0	-1.62	0.39
Min/Max	10.0 to 13.9	7.4 to 11.0	-3.90 to 0.70	-2.00 to 2.40
Median	-	-	-1.5	0.70
p	<0.001		<0.001	
				Wilcoxon

Bone Density (A-BD) and Bone Density adjusted for Height-age (HA-BD) according to Karyotype and Body Mass Index (BMI)

	KARYOTYPE		BMI	
	45,X	OTHER	> 0.61	≤ 0.61
N	6 (46.1%)	7 (53.8%)	6 (46.1%)	7 (53.8%)
A-BD	-1.48 ± 1.25	-1.74 ± 1.46	-1.48 ± 1.72	-2.50 ± 0.76
HA-BD	0.70 ± 0.51	0.13 ± 1.54	0.63 ± 0.46	0.19 ± 1.57
p	0.525		0.369	
				Mann-Whitney



Bone Density (A-BD) and Bone Density adjusted for height-age (HA-BD)

Conclusion

PREPUBERTAL TS GIRLS HAD NORMAL BONE DENSITY WHEN ADJUSTED FOR HEIGHT/AGE, WITHOUT INFLUENCE OF KARYOTYPE AND BMI.

LOWER BD VALUES ARE ASSOCIATED WITH THE SHORT STATURE BIAS, AND WHEN THE RESULTS ARE ADJUSTING FOR HEIGHT/AGE, THE VALUES ARE WITHIN NORMAL LIMITS.